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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,725	12/18/2001	William A. Ahroon	920070.403	1841

27370 7590 10/29/2004

OFFICE OF THE STAFF JUDGE ADVOCATE  
U.S. ARMY MEDICAL RESEARCH AND MATERIEL COMMAND  
ATTN: MCMR-JA (MS. ELIZABETH ARWINE)  
504 SCOTT STREET  
FORT DETRICK, MD 21702-5012

EXAMINER

VO, HUYEN X

ART UNIT

PAPER NUMBER

2655

DATE MAILED: 10/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/025,725

Applicant(s)

AHROON, WILLIAM A.

Examiner

Huyen Vo

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2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08).<br>Paper No(s)/Mail Date <u>3/18/2002</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless – (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-2 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Katayanagi et al. (US Patent No. 5687285).
3. Regarding claims 1 and 12, Katayanagi et al. disclose a method and system comprising: accepting voice input defining at least one spoken word (*element 11 in figure 1*); and calibrating the at least one spoken word in response to at least one defined speech-energy criterion (*col. 4, ln. 1-40*).
4. Regarding claims 2 and 13, Katayanagi et al. further disclose a method and system of claims 1 and 12, wherein said calibrating the at least one word in response to at least one defined speech-energy criterion comprises: calibrating the at least one spoken word in response to a defined root-mean-squared target value (*col. 4, ln. 1-40, threshold nr1 is considered the RMS target value*).

***Claim Rejections - 35 USC § 103***

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5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katayanagi et al. (US Patent No. 5687285).

7. Regarding claims 7 and 18, Katayanagi et al. a method and system of claims 1 and 12, wherein said calibrating the at least one spoken word in response to at least one defined speech-energy criterion comprises: calibrating the at least one spoken word in response to a defined target value (*col. 4, ln. 1-40, threshold nr1 is considered the RMS target value*), but fail to disclose that the defined target value is the peak-to-peak target value. However, it would have been obvious to one of ordinary skill in the art at the time of invention that the peak-to-peak value is an alternative scale of representing the signal's level. Either using the peak-to-peak value or the RMS value in the measurement or calculation will not alter the signal's level.

8. Claims 3-6, 8-11, 14-17, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katayanagi et al. (US Patent No. 5687285) and further in view of Ertem et al. (US Patent No. 6453289).

9. Regarding claims 3 and 14, Katayanagi et al. fail to disclose a method and claim of claims 2 and 13, wherein said calibrating the at least one word in response to a defined root-mean-squared target value comprises: multiplying a discrete representation of the at least one word by a scaling factor such that a resultant root-mean-squared value of the multiplied discrete representation of the at least one word is within a defined tolerance of the defined root-mean-squared target value.

However, Ertem et al. teach the step of multiplying a discrete representation of the at least one word by a scaling factor such that a resultant root-mean-squared value of the multiplied discrete representation of the at least one word is within a defined tolerance of the defined root-mean-squared target value (*col. 6, ln. 11-36, bringing the input signal to the nominal level by multiplying the input signal with the scaling factor*).

Since Katayanagi et al. and Ertem et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Katayanagi et al. by incorporating the teaching of Ertem et al. in order to minimize noise estimation error to optimize the performance of the voice activity detector (VAD).

10. Regarding claims 4 and 15, Katayanagi et al. further disclose a method and system of claims 3 and 14, wherein said multiplying a discrete representation of the at least one word by a scaling factor such that a resultant root-mean-squared value of the multiplied discrete representation of the at least one word is within a defined tolerance

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of the defined root-mean-squared target value comprises: calculating a scaling factor (*equation 2 in col. 4*).

11. Regarding claims 5 and 16, Katayanagi et al. further disclose a method and system of claims 4 and 15, wherein said calculating a scaling factor comprises: calculating a root-mean-squared value of the discrete representation of the at least one word (*equation 1 in col. 4*); and calculating the scaling factor by dividing the calculated root-mean-square target value of the discrete representation of the at least one word by the defined root-mean-squared value (*equation 2 in col. 4*).

12. Regarding claims 6 and 17, Katayanagi et al. further disclose a method and system of claims 4 and 15, wherein said calculating a scaling factor comprises: calculating a root-mean-squared value of the discrete representation of the at least one word (*Equation 1 in col. 4*). Katayanagi et al. fail to disclose the step of calculating the scaling factor to be a number less than one if the calculated root-mean-squared value is greater than a defined upper-end tolerance about the target value and to be a number greater than one if the calculated root-mean-squared value is less than a defined lower-end tolerance about the target value.

However, Ertem et al. further teach the step of calculating the scaling factor to be a number less than one if the calculated root-mean-squared value is greater than a defined upper-end tolerance about the target value and to be a number greater than

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one if the calculated root-mean-squared value is less than a defined lower-end tolerance about the target value (*col. 6, ln. 11-36, bringing the signal the nominal level*).

Since Katayanagi et al. and Ertem et al. are analogous art because they are from the same field of endeavors, it would have been obvious to one of ordinary skill in the art at the time of invention to further modify Katayanagi et al. by incorporating the teaching of Ertem et al. in order to minimize noise estimation error to optimize the performance of the voice activity detector (VAD).

13. Claims 8-11 and 19-22 are rejected for reason stated in claims 3-6 and 17-17, respectively, because they contain the same subject matter claimed 3-6 and 14-17, respectively. The only difference between two sets of claims is that claims 3-6 and 14-17 involves with the RMS value while claims 8-11 and 19-22 involves with the peak-to-peak value. However, it would have been obvious to one of ordinary skill in the art at the time of invention that the peak-to-peak value is an alternative scale of representing the signal's level. Either using the peak-to-peak value or the RMS value in the measurement or calculation will not alter the signal's level.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chan et al. (US Patent No. 5752226 & 5974373) teach a method for reducing noise in speech that is considered pertinent to the claimed invention.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huyen Vo whose telephone number is 703-305-8665.

The examiner can normally be reached on M-F, 9-5:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 703-305-4827. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Huyen X. Vo

October 25, 2004

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SUSAN MCFADDEN  
PRIMARY EXAMINER